

RST

6/27

TS6454

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau(43) International Publication Date
14 July 2005 (14.07.2005)

PCT

(10) International Publication Number
WO 2005/064733 A1(51) International Patent Classification?: **H01M 10/40,**
10/39, 10/36, 6/14, 6/16, H01G 9/02(71) Applicant (for CA only): **SHELL CANADA LIMITED**
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(CA).(21) International Application Number:
PCT/EP2004/053182

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(22) International Filing Date:
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(25) Filing Language: English

(26) Publication Language: English

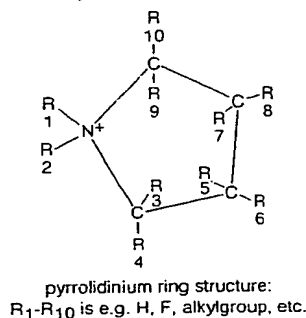
(30) Priority Data:
03104985.1 29 December 2003 (29.12.2003) EP(71) Applicant (for all designated States except CA,
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30, NL-2596 HR The Hague (NL).(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,

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(54) Title: ELECTROCHEMICAL ELEMENT FOR USE AT HIGH TEMPERATURES

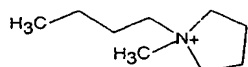
A

Pyrrolidinium cations



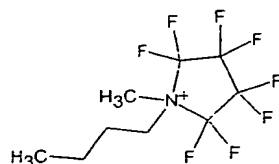
(57) Abstract: An electrochemical element for use at a high temperature has an anode, a cathode comprising an intercalation material having an upper reversible potential-limit of at most 4 V versus Li/Li⁺ as active material, and an electrolyte arranged between the cathode and anode, which electrolyte comprises an ionic liquid with an anion and a cation comprising a pyrrolidinium ring structure having four Carbon atoms and one Nitrogen atom. Experiments revealed that rechargeable batteries comprising such an intercalation material and N-R₁-N-R₂-pyrrolidinium, wherein R₁ and R₂ are alkyl groups and R₁ may be methyl and R₂ may be butyl or hexyl, are particularly suitable for use at a temperature of up to about 150 degrees Celsius and may be used in oil and/or gas production wells.

B



1-butyl-1-methylpyrrolidinium

C



1-butyl-2,2,3,3,4,4,5,5-octafluoro-1-methylpyrrolidinium

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TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

SI, SK, TR), OAPI (BE, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE,

Published:

— with international search report

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